METHODS AND APPARATUS FOR MAINTAINING PRESSURE GAIN IN A SERVOVALVE ASSEMBLY

ABSTRACT OF THE DISCLOSURE

A servovalve has a sleeve having both a first metering aperture and a second metering aperture in fluid communication with a single port cavity defined by the servovalve. A spool oriented within the sleeve has a first land and a second land and defines a channel oriented between the first land and the second land. When the spool orients in a null position within the sleeve, the first land overlaps the first metering aperture and the second land overlaps the second metering aperture. As a low viscosity fluid within the servovalve assembly leaks across the first land and enters the channel, the overlap of the first and second lands with the first and second metering apertures minimizes flow of the fluid from the channel into the port cavity associated with the metering apertures. The configuration of the sleeve assembly, therefore, maintains a relatively large pressure gain within the servovalve assembly.